

## CLAIMS

1.  
Process for obtaining mature dendritic cells or activated macrophages from monocytes, monocyte precursors or hematopoietic stem cells, characterized in that the said monocytes, precursors or stem cells are placed in contact with RU 41740 or an analogue of the latter, this compound being selected such that the placing in contact of immature dendritic cells with the said compound makes possible the functional maturation of the dendritic cells, demonstrated by their capacity
  - to trigger a primary response *in vitro* against an infectious or tumor antigen placed in contact with the dendritic cells beforehand and/or during their culture with the T lymphocytes;
  - to induce the proliferation of T lymphocytes in mixed autologous or allogenic culture.
2.  
Process for obtaining mature dendritic cells or activated macrophages from monocytes, monocyte precursors or hematopoietic stem cells, characterized in that the said monocytes, precursors or stem cells are placed in contact with RU 41740 or an analogue of the latter, this compound being selected such that the placing in contact of immature dendritic cells with the said compound makes possible the phenotypic maturation of the dendritic cells, demonstrated by a significant increase in the expression of the molecules CD40, CD83, CD86 and HLA-DR and a very marked diminution in the expression of the molecules CD14 and CD1a by the said dendritic cells.
3.  
Process according to Claim 1 or 2, characterized in that the monocytes, precursors or stem cells are placed in contact with an analogue of RU 41740 obtained from the strain O<sub>1</sub>K<sub>2</sub>NCTC 5055 of *Klebsiella pneumoniae*.
4.  
Process for obtaining mature dendritic cells presenting selected antigens, starting from monocytes, monocyte precursors or hematopoietic stem cells, characterized

- 1 in that the said precursors are placed in contact with RU 41740 or an analogue  
2 thereof, coupled to molecules comprising the said antigens.  
3
- 4 5. Process according to Claim 4, characterized in that the coupling between RU  
5 41740 or its analogue and the antigens is non-covalent.  
6
- 7 6. Process according to one of the Claims 1, 2, 4 and 5, in which the compound  
8 placed in contact with the monocytes, monocyte precursors or hematopoietic  
9 stem cells is RU 41740, coupled or not to antigenic molecules.  
10
- 11 7. Process according to Claim 6, in which RU 41740 is added to the culture medium  
12 of the monocytes, monocyte precursors or hematopoietic stem cells at a final  
13 concentration comprised between 1 ng/ml and 1 mg/ml, preferentially between  
14 100 ng/ml and 10 µg/ml.  
15
- 16 8. Process according to Claim 3, characterized in that the analogue of RU 41740 is  
17 LCOS 1013 or LCOS 1014.  
18
- 19 9. Process according to Claim 8, in which LCOS 1013 or LCOS 1014 is added to  
20 the culture medium of the monocytes, monocyte precursors or hematopoietic  
21 stem cells at a final concentration comprised between 1 ng/ml and 1 mg/ml,  
22 preferentially between 100 ng/ml and 50 µg/ml.  
23
- 24 10. Process according to one of the Claims 1 to 9, in which the dendritic cells are  
25 treated *ex vivo* for the preparation of a medicine destined for the prophylaxis,  
26 attenuation or treatment of cancerous, infectious, allergic or auto-immune  
27 diseases.  
28
- 29 11. Use of RU 41740 or an analogue thereof for the preparation of a composition  
30 containing mature dendritic cells and/or activated macrophages.  
31

12. Use of RU 41740 or an analogue thereof for the preparation of a pharmaceutical composition for topical administration, destined to promote the maturation of the Langerhans cells of the skin.
13. Use of a coupling product between RU 41740 or an analogue thereof and one or more antigens, for the preparation of a composition able to induce the production of mature dendritic cells or activated macrophages presenting the said antigens.
14. Use of dendritic cells obtained by means of a process according to one of the Claims 1 to 10 in the manufacture of a composition able to promote an anti-tumor immune response.
15. Use of dendritic cells obtained by means of a process according to one of the Claims 1 to 10, in the manufacture of a composition able to promote an immune response against an infection by a micro-organism.
16. Use of dendritic cells obtained by means of a process according to one of the Claims 1 to 10 and incubated in the presence of an immunosuppressant, in the manufacture of a composition able to modify the immune response in the sense of a tolerance.
17. Use of dendritic cells obtained by means of a process according to one of the Claims 1 to 10, for the detection and/or characterization of the histocompatibility antigens.
18. Coupling product between RU 41740 or an analogue thereof and antigenic molecules for inducing the maturation of dendritic cells or the activation of macrophages.
19. Coupling product according to Claim 18, characterized in that RU 41740 or its analogue is linked to antigenic molecules by means of non-covalent bonds.
20. Coupling product according to Claim 18 or 19, characterized in that the antigenic molecules are non-protein in nature.